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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,560	06/04/2001	Christopher M. Dobson	720797.90019	3009

7590 04/05/2004

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EXAMINER	
NICHOLS, CHRISTOPHER J	

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/787,560	DOBSON, CHRISTOPHER M.	
	Examiner	Art Unit	
	Christopher J Nichols, Ph.D.	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38-50 and 54-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *38-50 and 54-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *38-50 and 54-60* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Application, Amendments, and/or Claims

1. The Response and Amendment filed 13 January 2004 has been received and entered in full.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Withdrawn Objections And/Or Rejections

3. The Rejection of claim **38** under 35 U.S.C. §112 ¶2 as set forth at pp. 6-7 ¶16-17 of the previous Office Action (21 July 2003) is *withdrawn* in view of Applicant's amendments (13 January 2004).

4. The rejection of claims **39-42** and **49-52** under 35 U.S.C. §112 ¶2 as set forth at pp. 6 ¶15 of the previous Office Action (21 July 2003) is hereby *withdrawn*.

5. All Rejections of claims **51** and **52** as set forth in the previous Office Action (21 July 2003) are *moot* in view of Applicant's cancellation of said claims (13 January 2004).

Maintained/New Rejections

Claim Rejections - 35 USC § 112

6. Claims **38-50** and **54-60** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains,

or with which it is most nearly connected, to make and/or use the invention for the reasons as set forth at pp. in the previous Office Action (21 July 2003).

7. Applicant traverses this rejection on the following grounds: **(a)** it is a matter of routine experimentation to achieve at least some aggregation and fibril formation for any given protein, **(b)** the skilled artisan would readily understand what modifications should be made for different proteins to practice the invention, **(c)** Examples 1 and 2 show that a acidic pH, PI3-SH3 readily aggregates into amyloid fibrils {Guijarro *et al.* (1998)}, **(d)** the formation of amyloid fibrils does not require any specific preformed secondary structure in the solution state protein {Groß *et al.* (1999)}, **(e)** amyloid formation is a common property of proteins under appropriate conditions, **(f)** specific sequence patterns are unnecessary for the ability to form fibrils {Fändrich *et al.* (2002)}, **(g)** an alcohol, acetonitrile, urea, and/or a denaturing step are not necessarily required for amyloid formation of a given protein, **(h)** any given metal may be incorporated into the structure of amyloid fibrils as they form, **(i)** Perutz *et al.* (2002) taken with Fändrich *et al.* (2001) and Fändrich *et al.* (2002) in view of the instant Specification that neither the amino acid sequence nor the secondary structure of a protein is critical to its ability to form amyloid fibrils, **(j)** Chiti *et al.* (1999) supports the proposition that amyloid fibril formation may be possible for any given protein, and **(k)** several representative samples are provided in the Specification to practice the invention as claimed.

8. Applicant's arguments have been taken into consideration and are not found persuasive for the following reasons.

9. On "**(a)**", the Specification as filed only provides examples for SH3 domain of the p85α subunit of PI3-kinase, human muscle acylphosphatase, CspB-1, CspB-2, CspB-3, and wild type

human carboxypeptidase A2. However, the Specification only contains suggestion on how to experiment to make amyloid fibrils from any given protein. Taken that, to date, there are at least 120,000 genes which encode proteins in humans (*Homo sapien sapien*) as a single species, the Specification has not provided sufficient guidance to achieve fibril formation for all and any given protein {see Venter *et al.* (16 February 2001) "The sequence of the human genome." Science **291**(5507): 1304-51}. Takahashi *et al.* (January 1999) "Optimization of hydrophobic domains in peptides that undergo transformation from alpha-helix to beta-fibril." Bioorg Med Chem. **7**(1): 177-85 teaches that an exposed hydrophobic nucleation domain at N-terminal causes a structural transition of a peptide from α-helix to β-fibril. It became clear that N-terminal acyl groups of particular lengths in a 2α-helix peptide caused the peptide to undergo an α-to-β transition. The peptide with the octanoyl group (C8-2α) showed the highest rate of transformation. Takahashi *et al.* demonstrates that the formation of fibrils is highly sequence dependent as some may readily for fibrils while others will not regardless of manipulation. As currently presented, claims offer no specifics as to the sequence, domains, length, charge, or origin which would lead the skilled artisan to practice the methods in the absence of guidance. Therefore the claims represent an invitation to experiment.

10. On "**(b)**", as noted above the Specification does not provide sufficient guidance to cover all the possible proteins of one species, let alone any given protein. McCutchen *et al.* (16 November 1993) "Transthyretin mutation Leu-55-Pro significantly alters tetramer stability and increases amyloidogenicity." Biochemistry **32**(45): 12119-27 teaches that the Leu-55-Pro TTR tetramer is significantly less stable than wild-type TTR. This is relevant because we have previously shown that the partial denaturation of transthyretin is sufficient to effect amyloid

fibril formation from a denaturation intermediate which may be a structured monomer. The ability of Leu-55-Pro TTR to denature to the amyloidogenic intermediate at pHs where the wild-type protein is stable may explain the variant's propensity to form amyloid fibrils *in vitro* and *in vivo* where the wild-type protein remains stable and non-amyloidogenic. Therefore a single amino acid change in a protein may changes its amyloidogenic properties. Thus the skilled artisan is confronted with undue burden of experimentation to decipher what conditions will yield fibrils as the Specification only provides a desired outcome. It is noted that Applicant has provided examples in the Specification but not explained in which manner it may be extrapolated to apply to any given protein.

11. On "**(c)**", the teachings of Guijarro *et al.* (1998) have been taken into consideration, see art rejection below. Further Guijarro *et al.* (1998) teaches that "Proteins known to form amyloid fibrils *in vivo* have no obvious sequence or structural similarities, and where the soluble folds of the amyloidogenic precursors are known they span the range of secondary, tertiary, and quaternary structural elements." (pp. 4224) Therefore the skilled artisan is confronted with a complex, unpredictable, and unexplained phenomenon, the formation of amyloid fibrils. Thus in the absence of any specific guidance as to the nature, structure, or requirements for amyloid formation the invention can not be accomplished without undue experimentation.

12. On "**(d)**", Applicant has admitted that "...the formation of amyloid fibrils does not require any specific preformed secondary structure in the solution state protein." (pp. 8, Response filed 13 January 2004). Therefore Applicant has admitted that neither guidance nor predictability exists in the art for the invention to be practiced. This leaves the skilled artisan no choice but to experiment without any guides or clues as to how to achieve the goal of the claims preamble.

13. On "**(e)**", while the combination of proteins and conditions that may yield amyloid fibrils may constitute a fecund ground for investigation, the CAFC ruled in *Genentech Inc. v. Novo Nordisk A/S* (CA FC) **42 USPQ2d 1001** (1997) that patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable. Citing *Brenner v. Manson,* **383 U.S. 519, 536, 148 USPQ 689, 696** (1966) (stating, in context of the utility requirement, that "a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion."). Therefore the CFAC stated that tossing out the mere germ of an idea does not constitute enabling disclosure. While every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention. That requirement has not been met in the instant specification with respect to the any protein and condition combination which in turns has produces amyloid fibrils.

14. On "**(f)**", Applicant has admitted on the record that "...specific sequence patterns are unnecessary for the ability to form fibrils." (pp. 9 Response filed 13 January 2004). Therefore in view of *Brenner v. Manson,* **383 U.S. 519, 536, 148 USPQ 689, 696** (1966) as discussed above, Applicant does not have an enabling disclosure but a vague statement of general possibilities constituting an invitation to experiment.

15. On "**(g)**", Damaschun *et al.* (20 August 1999) "Proteins can adopt totally different folded conformations." J Mol Biol. **291**(3): 715-25 teaches that the three-dimensional structure of a protein is determined by interactions between its amino acids and by interactions of the amino acids with molecules of the environment. The great influence of the latter interactions is

demonstrated for the enzyme phosphoglycerate kinase from yeast (PGK). In the native state, PGK is a compact, bilobal molecule; 35% and 13% of its amino acids are organized in the form of α-helices and β-sheets, respectively. The molecules unfold at acidic pH and low ionic strength forming random-walk structures with a persistence length of 3 nm. More than 90% of the amino acid residues of the ensemble have π,σ-angles corresponding to those of a straight β-chain. Upon addition of 50% (v/v) trifluoroethanol to the acid-unfolded protein, the entire molecule is transformed into a rod-like, flexible α-helix. Addition of anions, such as chloride or trichloroacetate, to the acid-unfolded protein leads to the formation of amyloid-like fibers over a period of many hours when the anion concentration exceeds a critical limit. Half of the amino acid residues are then organized in β-sheets. Both of the non-natively folded states of PGK contain more regular secondary structure than the native one. The misfolding starts in both cases from the acid-unfolded state, in which the molecules are essentially more expanded than in other denatured states, e.g. those effected by temperature or guanidine hydrochloride. Thus the conditions of the solution and the protein itself will determine what confirmation the protein takes on. The claims have not specified any concrete conditions, domains, motifs, amino acid sequences, to which one may practice the invention. And since the Applicant dismisses any specific conditions such as alcohol, acetonitrile, urea, or generally denaturing conditions as required, no guidance other than to experiment with each and every protein is set forth by the Specification.

16. On "**(h)**", the Examiner does not refute that metals may be incorporated into amyloid fibrils but the fact remains no guidance nor parameters are present for the invention to be practiced.

17. On "**(i)**", Applicant has admitted that "...neither the amino acid sequence, nor the secondary structure of a protein, is critical to its ability to form amyloid fibrils." (pp. 11, Response filed 13 January 2004). Therefore Applicant has admitted that neither guidance nor predictability exists in the art for the invention to be practiced. In view of *Brenner v. Manson,* **383 U.S. 519, 536, 148 USPQ 689, 696** (1966) as discussed above, Applicant does not have an enabling disclosure but a vague statement of general possibilities constituting an invitation to experiment. This leaves the skilled artisan no choice but to experiment without any guides or clues as to how to achieve the goal of the claims preamble.

18. On "**(j)**", the inventor's authorship does not necessarily preclude the Examiner from using the publication in a rejection {see 35 U.S.C. §102(a) for instance}. To review, Chiti *et al.* (March 1999) "Designing conditions for in vitro formation of amyloid protofilaments and fibrils." PNAS **96**: 3590-3594 teaches that it is important to make it clear that the particular conditions we have used are not suggested to be universally appropriate for fibril formation by proteins." (pp. 3593) Thus the guidance present is limited the conditions must be established for each and every protein. For instance, heating egg albumin does denature the protein but it fails to form a fibril.

19. On "**(k)**", Applicant has provided isolated examples of accomplishing the invention but has failed to explain, teach, or guide how these examples may be applied to other proteins. For instance, Burdick *et al.* (5 January 1992) "Assembly and Aggregation Properties of Synthetic Alzheimer's A4/β Amyloid Peptide Analogs." The Journal of Biological Chemistry **267**(1): 546-554 teaches that pH, peptide concentration, and time of incubation as well as the length and nature of the protein used in the aggregation (fibril formation process) are critical for successful

formation of fibrils (Table 1; Figures 3 and 4). Thus the skilled artisan is not given sufficient guidance in the instant Specification to practice the claimed invention to its full scope. Applicant has maintained to the contrary (see above) that no specific conditions, structures, domains, motifs, sequences, or physical parameters are required to practice the invention.

20. Furthermore the art teaches that a single amino acid change may alter the physical properties of a protein and its ability to form fibrils. Funahashi *et al.* (December 1996) "The structure, stability, and folding process of amyloidogenic mutant human lysozyme." J Biochem (Tokyo) **120**(6): 1216-23 teaches that the crystal structure of the mutant protein was the same as the wild-type structure, except that the hydroxyl group of the introduced Thr56 formed a hydrogen bond with a water molecule in the interior of the protein. The other physicochemical properties of the mutant protein in the native state were not different from those of the wild-type protein. However, the equilibrium and kinetic stabilities of the mutant protein were remarkably decreased due to the introduction of a polar residue (Thr) in the interior of the molecule. Therefore the skilled artisan is given no guidance in an unpredictable field of endeavor.

21. Thus the specification of the instant application fails to provide adequate guidance for one of skill in the art to overcome the unpredictability and challenges of applying the results of a few proteins to the full range of proteins claimed as exemplified in the references above.

22. Claims **38-50** and **54-60** are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

23. The independent claims have provided an endpoint but not delineated the physical parameters of the method thus implying that said parameters are not known or must be confirmed. Thus, the claims are drawn to a genus of agents that is defined by a desired end product.

24. Furthermore the art recognizes that "protein" can pertain to entity which is composed of amino acids.

25. To provide adequate written description and evidence of possession of a claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus. The factors to be considered include disclosure of complete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, and any combination thereof. In this case, the only factor present in the claim that is a recitation of a desired end product. The specification does not identify any particular portion of the method that must be conserved, nor does it provide a disclosure of structure/function correlation. The distinguishing characteristics of the claimed genus are not described. Accordingly, the specification does not provide adequate written description of the claimed genus.

26. To satisfy the written-description requirement, the specification must describe every element of the claimed invention in sufficient detail so that one of ordinary skill in the art would recognize that the inventor possessed the claimed invention at the time of filing. *Vas-Cath*, 935 F.3d at 1563; see also *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 [41 USPQ2d 1961] (Fed. Cir. 1997) (patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed

invention"); *In re Gosteli*, 872 F.2d 1008, 1012 [10 USPQ2d 1614] (Fed. Cir. 1989) ("the description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed"). Thus, an applicant complies with the written-description requirement "by describing the invention, with all its claimed limitations, not that which makes it obvious," and by using "such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention." *Lockwood*, 107 F.3d at 1572.

27. Patent protection can not be granted for an idea or an intangible suggestion. While the method of claims 38 and 60 may constitute a fecund ground for investigation, the CAFC ruled in *Genentech Inc. v. Novo Nordisk A/S* (CA FC) **42 USPQ2d 1001** (1997) that patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable. Citing *Brenner v. Manson,* **383 U.S. 519, 536, 148 USPQ 689, 696** (1966) (stating, in context of the utility requirement, that "a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion."). Therefore the CFAC stated that tossing out the mere germ of an idea does not constitute enabling disclosure. While every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention. That requirement has not been met in the instant specification with respect to the full range of proteins that may be chemically coerced to form an amyloid fibril.

28. See *University of Rochester v. G.D. Searle & Co.*, 68 USPQ2d 1424 (DC WNY 2003) and *University of Rochester v. G.D. Searle & Co. et al.* CAFC [(03-1304) 13 February 2004]. In *University of Rochester v. G.D. Searle & Co.* a patent directed to method for inhibiting

prostaglandin synthesis in human host using an unspecified compound, in order to relieve pain without side effect of stomach irritation, did not satisfy written description requirement of 35 U.S.C. §112, since the patent described the compound's desired function of reducing activity of the enzyme PGHS-2 without adversely affecting PGHS-1 enzyme activity, but did not identify said compound, since invention consists of performing "assays" to screen compounds in order to discover those with desired effect. The patent did not name even one compound that assays would identify as suitable for practice of invention, or provide information such that one skilled in art could identify suitable compound. And since specification did not indicate that compounds are available in public depository, the claimed treatment method cannot be practiced without compound. Thus the inventors cannot be said to have "possessed" claimed invention without knowing of a compound or method certain to produce compound. Thus said patent constituted an invitation to experiment to first identify, then characterize, and then use a therapeutic a class of compound defined only by their desired properties.

29. Therefore the full breadth of the claim fails to meet the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision.

30. Claim **38** is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. No decipherable steps are present in the claims to practice the process.

31. Claim **48** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "pharmaceutically active" in claim 48 is a relative term which renders the claim indefinite. The term "pharmaceutically active" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. No specific definition is presented nor parameters as to what constitutes a pharmaceutical activity.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

32. Claims **1, 44, 45,** and **46** are rejected under 35 U.S.C. 102(a) as being anticipated by Guijarro *et al.* (14 April 1998) "Amyloid fibril formation by an SH3 domain." PNAS 95(8): 4224-4228 (**IDS**).

33. Guijarro *et al.* teaches a method of making fibrils from the SH3 domain of the p85a subunit of bovine phosphatidylinositol 3-kinase (PI3-SH3) at pH 2.0 at 4°C or room temperature (25°C) for several days thus meeting the limitations of claims 1, and 44, 45, 46 (pp. 4225; Figure

1). The term "non-naturally occurring" is taken to be an intended use or a desired property and is not given patentable weight in this art rejection.

34. Claims **1, 44,** and **45** are rejected under 35 U.S.C. 102(b) as being anticipated by WO 96/39129 (12 December 1996) Kisilevsky *et al.*

35. WO 96/39129 teaches a method of making β-amyloid fibrils comprising incubating Aβ at 37°C, with and without WAS-20 (2,5-dihydroxy-1,4-benzenedisulfonic acid) thus meeting the limitations of claims 1, 44, and 45 (pp. 7 lines 24-38; pp. 14 lines 5-21; Example 2). The term "non-naturally occurring" is taken to be an intended use or a desired property and is not given patentable weight in this art rejection.

36. Claims **1, 44,** and **45** are rejected under 35 U.S.C. 102(e) as being anticipated by US 5,858,326 (12 January 1999) Kisilevsky *et al.*

37. US 5,858,326 teaches a method of making fibrils comprising incubating Aβ at 37°C, with and without WAS-20 (2,5-dihydroxy-1,4-benzenedisulfonic acid) thus meeting the limitations of claims 1, 44, and 45 (Example 2). The term "non-naturally occurring" is taken to be an intended use or a desired property and is not given patentable weight in this art rejection.

38. US 5,858,326 also teaches a method of making fibrils comprising incubating amyloidogenic peptides in solution thus meeting the limitations of claim 1 (claims 1-2). The term "non-naturally occurring" is taken to be an intended use or a desired property and is not given patentable weight in this art rejection.

Summary

39. No claims are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Christopher James Nichols, Ph.D.** whose telephone number is **(571) 272-0889**. The examiner can normally be reached on Monday through Friday, 8:00 AM to 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gary Kunz, Ph.D.** can be reached on **(571) 272-0887**.

The fax number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see **http://pair-direct.uspto.gov**. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

Elyabeth C. Kemmerer

CJN
March 30, 2004

ELIZABETH KEMMERER
PRIMARY EXAMINER